Risk Integrated System of Closure

Announcement of Certain Polycyclic Aromatic Hydrocarbons (PAH) closure level changes

August 2006

On May 5, 2006, The Office of Land Quality (OLQ) held a RISC Technical Guide Input Session to receive comments and concerns from the public in preparation for a planned update of the Technical Guide later this year. Ground water closure levels for certain polycyclic aromatic hydrocarbons (PAHs) were identified as problematic because their closure levels approached, or were below, the analytical method detection limits.

OLQ investigated this concern and decided that, as part of updating the RISC Technical Guide, Appendix 1 Default Residential and Industrial Ground Water Closure Levels for nine PAHs should default to the health protective Closure Levels rather than the lower solubility limits. In all nine cases, the default Ground Water Closure Levels, as well as their Migration to Ground Water (subsurface soil) Closure Levels, have increased. In all cases, these new numbers are still health protective.

The following tables will be incorporated into the update of the RISC Technical Guide Appendix 1 Tables next year. In the meantime, OLQ proposes that the Ground Water Closure Levels and Migration to Ground Water (subsurface soil) Closure Levels for these nine PAHs be made available for immediate use as interim default closure levels. If there are any questions or concerns about this change in how these new default closure levels are determined, please contact the RISC staff at 317-232-8997 or email your question to: idemrisc at idem.in.gov.

Residential Closure Levels

		Soil									Ground Water				
Contaminant	CAS	Soil Attenuation Capacity mg/kg	Soil Saturation (Csat) mg/kg	Construction mg/kg		Soil Direct		Migration to GW mg/kg		Interim Default Closure Level mg/kg	Ground Water Solubility mg/l-water	MCL mg/l	Residential mg/l		Interim Default Closure Level mg/l
Acenaphthene	**83-32-9**	**6000/2000**		**50000**	**NC**	**9500**	**NC**	**130**		**130**	**4.2**		**0.46**	**NC**	**0.46**
Anthracene	**120-12-7**	**6000/2000**		**250000**	**NC**	**47000**	**NC**	**2700**		**2000**	**0.043**		**2.3**	**NC**	**2.3**
Benzo(b)fluoranthene	**205-99-2**	**6000/2000**		**790**	**C**	**5**	**C**	**59**		**5**	**0.0015**		**0.0012**	**C**	**0.0012**
Benzo(k)fluoranthene	**207-08-9**	**6000/2000**		**7900**	**C**	**50**	**C**	**590**		**50**	**0.0008**		**0.012**	**C**	**0.012**
Chrysene	**218-01-9**	**6000/2000**		**79000**	**C**	**500**	**C**	**1900**		**500**	**0.0016**		**0.12**	**C**	**0.12**
Fluoranthene	**206-44-0**	**6000/2000**		**33000**	**NC**	**6300**	**NC**	**6400**		**2000**	**0.21**		**1.5**	**NC**	**1.5**
Fluorene	**86-73-7**	**6000/2000**		**33000**	**NC**	**6300**	**NC**	**170**		**170**	**2**		**0.31**	**NC**	**0.31**
Indeno(1,2,3-cd)pyrene	**193-39-5**	**6000/2000**		**790**	**C**	**5**	**C**	**170**		**5**	**0.000022**		**0.0012**	**C**	**0.0012**
Pyrene	**129-00-0**	**6000/2000**		**25000**	**NC**	**4700**	**NC**	**4600**		**2000**	**0.14**		**1.1**	**NC**	**1.1**

Industrial Closure Levels

		Soil									Ground Water				
Contaminant	CAS	Soil Attenuation Capacity mg/kg	Soil Saturation (Csat) mg/kg	Construction mg/kg		Soil Direct mg/kg		Migration to GW mg/kg		Interim Default Closure Level mg/kg	Ground Water Solubility mg/l-water	MCL mg/l	Industrial mg/l		Interim Default Closure Level mg/l
Acenaphthene	**83-32-9**	**6000/2000**		**50000**	**NC**	**24000**	**NC**	**1800**		**1800**	**4.2**		**6.1**	**NC**	**6.1**
Anthracene	**120-12-7**	**6000/2000**		**250000**	**NC**	**120000**	**NC**	**37000**		**2000**	**0.043**		**31**	**NC**	**31**
Benzo(b)fluoranthene	**205-99-2**	**6000/2000**		**790**	**C**	**15**	**C**	**190**		**15**	**0.0015**		**0.0039**	**C**	**0.0039**
Benzo(k)fluoranthene	**207-08-9**	**6000/2000**		**7900**	**C**	**150**	**C**	**1900**		**150**	**0.0008**		**0.039**	**C**	**0.039**
Chrysene	**218-01-9**	**6000/2000**		**79000**	**C**	**1500**	**C**	**6200**		**1500**	**0.0016**		**0.39**	**C**	**0.39**
Fluoranthene	**206-44-0**	**6000/2000**		**33000**	**NC**	**16000**	**NC**	**18000**		**2000**	**0.21**		**4.1**	**NC**	**4.1**
Fluorene	**86-73-7**	**6000/2000**		**33000**	**NC**	**16000**	**NC**	**2300**		**2000**	**2**		**4.1**	**NC**	**4.1**
Indeno(1,2,3-cd)pyrene	**193-39-5**	**6000/2000**		**790**	**C**	**15**	**C**	**540**		**15**	**0.000022**		**0.0039**	**C**	**0.0039**
Pyrene	**129-00-0**	**6000/2000**		**25000**	**NC**	**12000**	**NC**	**13000**		**2000**	**0.14**		**3.1**	**NC**	**3.1**